

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ2003/000286

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: F04B 43/12, 45/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
See below under "Electronic database consulted"

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DWPI: F04B 43/-, 45/-; A61M; A61D 7/- with keywords : peristaltic, tube, holder, rotor, housing, bag, magnetic and similar terms**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------------|
| X Y | US 4178138A (ILES) 11 December 1979 The whole document The whole document | 1-44, 51-57 45-50, 58-66 |
| X | US 3955902A (KYVSGAARD) 11 May 1976 The whole document | 1-44, 51-57 |
| X | Derwent Abstract Accession No. 2001-275955/29, Class B07, JP 2001-017543A (TERUMO CORP) 23 January 2001 Abstract and Figure | 1-44, 51-57 |

☒ Further documents are listed in the continuation of Box C ☒ See patent family annex

- * Special categories of cited documents:
- | | |
|---|--|
| "A" document defining the general state of the art which is not considered to be of particular relevance | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "E" earlier application or patent but published on or after the international filing date | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" document referring to an oral disclosure, use, exhibition or other means | "&" document member of the same patent family |
| "P" document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search
14 May 2004Date of mailing of the international search report
20 MAY 2004

Name and mailing address of the ISA/AU

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|---|--|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | US 4530647A (UNO) 23 July 1985 The whole document | 1-44, 51-57 |
| X | US 5445506A (AFFLERBAUGH et al.) 29 August 1995 Figures 43-44B and accompanying description | 1-44, 51-57 |
| Y | GB 2138511A (SMITH AND NEPHEW ASSOCIATED COMPANIES PLC) 24 October 1984 The whole document | 45-50 |
| Y | WO 2001/091831A1 (CONSTANCE LIMITED) 6 December 2001 The whole document | 58-77 |
| P, Y | US 6626355B2 (SASSE et al.) 30 September 2003 The whole document | 67-77 |
| Y | EP 0776670A2 (ALCON LABORATORIES, INC.) 4 June 1997 Column 4, lines 44-46, claim 2 | 67-77 |

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Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos :
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See Supplemental Box

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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PCT/NZ2003/000286**Supplemental Box**

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: II

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-9, 10-22, 23-27 are directed to a tube holder, a combination of a tube holder and a pump head having a tapered rotor and a method of loading a tube into a tube holder respectively. It is considered that the tube being insertable in a tube race by movement in a substantially orthogonal direction relative to the race so that it extends through a first tube inlet, around a first race part, out through a first tube outlet, in through a second tube inlet, around a second race part and out through a second tube outlet comprises a first "special technical feature".
2. Claims 28-44 are directed to a combination of a peristaltic pump head having a tapered rotor and a tube holder. It is considered that a tube race including a plurality of separate race parts around a recess for receipt of the tapered end of the rotor such that the tube can exit and re-enter the tube race comprises a second "special technical feature".
3. Claims 45-50 are directed to a peristaltic pump head. It is considered that a axially biased tapered pump rotor including gear teeth engaging teeth of a gear in a transmission mechanism wherein the teeth of both gears are of sufficient length to remain engaged during axial movement of the rotor relative to a housing comprises a third "special technical feature".
4. Claims 51-57 are directed to a kit of parts for assembling a peristaltic pump head assembly. It is considered that a housing having two parts and configured to receive a rotor such that the assembly can be assembled by snapping the housing parts together without the use of adhesives or separate fasteners comprises a fourth "special technical feature".
5. Claims 58-59 and 60-66 are directed to a flexible container having a reservoir for holding fluid and including a tube holder directly connected to it. It is considered that tube holder having tube race around a tapered aperture or recess for receipt of a tapered rotor of a peristaltic pump head and a resiliently flexible tube in fluid communication with the reservoir and extending around the tube race comprises a fifth "special technical feature".
6. Claims 67-77 are directed to a container holding at least one fluid for dispensing by a peristaltic pump. It is considered that a plurality of magnetic or magnetisable areas in predetermined positions to identify the container and configured for detection by a pump assembly having a plurality of sensors in corresponding predetermined positions comprises a sixth "special technical feature".

Since the abovementioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.

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Information on patent family members

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in Search Report | | Patent Family Member | | | |
|---|---------|----------------------|----------|----|------------|
| US | 4178138 | GB | 1578022 | | |
| US | 3955902 | DK | 278774 | DK | 295373 |
| US | 4530647 | | | | |
| US | 5445506 | CA | 2155644 | EP | 0690960 |
| GB | 2138511 | | | WO | 9517601 |
| WO | 0191831 | AU | 60448/01 | EP | 1307249 |
| US | 6626355 | DE | 10005108 | US | 2004007590 |
| EP | 0776670 | EP | 1132102 | US | 2001020148 |
| | | AU | 68034/96 | CA | 2187384 |
| | | US | 5899674 | JP | 9173338 |
| | | | | US | 6059544 |
| Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001. | | | | | |
| END OF ANNEX | | | | | |